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September 10, 2010

Via Email and Federal Express

Mr. Valmichael Leos, EPA Project Coordinator (6SF-RA)
U.S. Environmental Protection Agency, Region 6
Superfund Division (6SF-RA)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Ms. Barbara A. Nann
Assistant Regional Counsel
U.S. Environmental Protection Agency, Region 6
Superfund Division (6RC-S)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: San Jacinto River Waste Pits Superfund Site; Administrative Settlement Agreement and Order On Consent for Removal Action; U.S. EPA Region 6, CERCLA Docket No. 06-12-10; Notice of Dispute

Dear Ms. Nann and Mr. Leos:

Pursuant to Paragraph 70 of the above-referenced Administrative Order on Consent ("AOC"), McGinnes Industrial Maintenance Corporation ("MIMC") hereby notifies the U.S. Environmental Protection Agency ("EPA") Region 6 of its objection to EPA's clarification of its "Decision Document for the Time Critical Removal Action at the San Jacinto River Waste Pits Site, Harris County, Texas" ("Decision Document"), conveyed to MIMC and the other Respondent in this matter, International Paper Company, on August 13, 2010 (the "August 13 Clarification"). In its August 13 Clarification, EPA for the first time unambiguously notified the Respondents that the Time Critical Removal Action ("TCRA") required by the AOC must be designed on the basis of the 100-year flow event. The Decision Document, issued by EPA on July 28, 2010 had more generically referred to the 100-year storm event. MIMC's position is that EPA's decision that the TCRA design must be based on the 100-year flow event is inconsistent with the express terms of the AOC, EPA's Statement of Work attached to the AOC

as Appendix D ("SOW"), EPA's Action Memorandum dated April 2, 2010 ("Action Memo") and the National Contingency Plan ("NCP"), 40 CFR Part 300, and is therefore arbitrary and capricious and not supported by law.

In support of its position, MIMC offers the following:

1. According to Paragraph 44 of the AOC, the TCRA is intended to, among other things, stabilize waste ponds 1 and 2 at the Site to "temporarily abate" the release of hazardous substances from the ponds to the San Jacinto River until the long term remedial action for the San Jacinto River Waste Pits Superfund Site ("Site") has been selected and implemented. Similarly, in the SOW, EPA states that the purpose of the TCRA is to "temporarily abate the ongoing releases of waste materials from the Site into the San Jacinto River . . . " See SOW, p 1. EPA's Decision Document specifically stated that two of the performance requirements for the TCRA were to (i) ensure that the removal action would be "structurally stable for five to seven years until the Site is fully characterized and a remedy is selected", and (ii) "withstand and remain in place and effective during and after extreme weather events for five to seven years while the nature and extent of contamination is being investigated." Decision Document § III.B., p.4 (emphasis added). See also Decision Document § II.B. "The removal action is to stabilize the Site by designing and constructing a physical protective barrier surrounding waste ponds 1 and 2 that temporarily abates the release . . . until the Site is fully characterized and a remedy is selected."

2. The AOC grew out of EPA's Action Memo issued on April 2, 2010. The Action Memo identified the need for the TCRA to "stabilize the Site, temporarily abating the release . . . until the Site is fully characterized and a remedy is selected." Action Memo § I., p. 1. The Action Memo went on to state that the barrier design and construction must be "structurally sound for a number of years until a final remedy is designed and implemented" and that the physical protective barrier must be "structurally secure to withstand any potential future extreme weather events (i.e., Hurricane Ike of 2008)."

3. Consistent with the AOC and the SOW, Respondents submitted to EPA on June 15, 2010 a document entitled "Revised Draft Time Critical Removal Action Alternatives Analysis" ("TCRA Alternatives Analysis") that set out the removal options available to temporarily abate the release of hazardous substances from the Site. The TCRA Alternatives Analysis documented "all alternatives evaluated and provide[d] a recommended option" in accordance with Paragraph 45.a. of the AOC. To ensure that the TCRA Alternatives Analysis addressed all alternatives and included appropriate design considerations, Respondents met with EPA and its independent consultant on May 20, 2010 to discuss the TCRA alternatives and design. During that meeting, an early version of a flow design technical memorandum entitled "Design Storm Event: San Jacinto Superfund Site Time Critical Removal Action" was presented to EPA. A copy of the final memorandum is attached hereto as Exhibit 1 and is incorporated herein for all purposes. As indicated in Exhibit 1, the flow event drives the design of the TCRA.

EPA's acceptance of the flow criteria early in the design of the alternatives was considered by the Respondents to be essential to the development of the alternatives presented in the TCRA Alternatives Analysis. Due to prior concerns expressed by EPA and Harris County about Hurricane Ike-like storm events, Respondents' consultant took this storm event into consideration in evaluating the TCRA alternatives. Respondents' consultant determined that Hurricane Ike was equivalent to a 10-year flow event in the vicinity of the Site.

4. Under Paragraph 45.a. of the AOC, EPA is required to review the Respondents' TCRA Alternatives Analysis and "issue a decision document . . . approving the preferred alternative that best addresses the performance measures outlined in the Action Memo." Similarly, under the SOW, EPA states that "From the conceptual design options [identified by the Respondent], a design will be chosen . . . [by EPA]." SOW, p. 2. Neither the AOC nor the SOW gives any indication that EPA may choose a TCRA alternative that has not been analyzed and presented to EPA by the Respondents in the TCRA Alternatives Analysis. Moreover, EPA's choice of an alternative not analyzed by the Respondents is totally inconsistent with the special effort and care taken by both the Respondents and the EPA to meet during the development of the alternatives and ensure that the Respondents' analysis was consistent with EPA's goals and desires.

5. The SOW further requires that the selected removal action alternative "be consistent with any long term non-time critical removal and remediation strategies that may be developed for the Site." SOW, p. 2. Similarly, § 300.415(d) of the NCP requires EPA to select a removal action that will "to the extent practicable, contribute to the efficient performance of any anticipated long-term remedial action with respect to the release concerned."

6. Contrary to the express requirements of the AOC, SOW, Action Memo and NCP, EPA has chosen a TCRA alternative that (i) is designed to permanently abate rather than "temporarily abate" the release at the Site, (ii) was not identified and analyzed by Respondents in the TCRA Alternatives Analysis, and (iii) does not adequately take long-term remedial action alternatives into account in accordance with the SOW and NCP.

7. In its Decision Document, EPA states that a modified version of TCRA Design Alternative 3, identified by the Respondents in the TCRA Alternatives Analysis, would "best temporarily abate the release of dioxin into the San Jacinto River . . ." EPA states that the modification to the design is required as a result of comments received from Harris County, TCEQ, and the independent review performed by a licensed professional engineer contracted by EPA. This modification involves a change in the design from one that considers a "10 year return interval flow design storm event" to one based on "storm events with a return period of 100 years." The Decision Document went on to say that the design should follow design criteria specified by the 1994 U.S. Army Corps of Engineers ("ACOE") document named "EM 1110-2-1601" entitled "Hydraulic Design of Flood Control Channels." Note, however, that the referenced ACOE Engineering Manual EM 1110-2-1601 provides no guidance on selection of a

storm or flow event to be used in the design of flood control channels or structures built in aquatic environments.

8. After reviewing the Decision Document, Respondents were unclear as to what EPA was requiring relative to design of the TCRA since the reference to "storm events with a return period of 100 years" was imprecise, particularly when viewed in conjunction with the Harris County, TCEQ and independent professional engineer comments on which EPA's decision was based. For example, the Harris County comments on which EPA based its decision argued for consideration of the 100-year flood elevation and cited certain severe storm events such as Hurricanes Alicia and Ike and the flood of October 1994 as reasons for the County's concern. TCEQ stated in its comments that the use of the 10-year storm event as the design storm event "may be unacceptable" due to concerns about recent Houston-area storms such as Tropical Storm Alison, Hurricane Katrina and Hurricane Ike, each of which was considered a 100-year storm event. Accordingly, TCEQ recommended use of the 100-year storm event. As further explained later in this letter, these comments did not clearly indicate whether a 10-year flow event or a 100-year flow event was being proposed. Furthermore, the comments of EPA's independent professional engineer did not clearly state a preference for a 100-year flow event design.

9. Because of the ambiguity of the Decision Document, Respondents requested a meeting with EPA to obtain further clarification and guidance on the design storm event issue. The meeting occurred on August 11, 2010. At the meeting, Respondents' consultant, Anchor QEA, explained to EPA that the term "100-year storm event" is ambiguous in that it can be interpreted to refer to flow or surge. For example, Tropical Storm Alison and Hurricane Ike are both considered 100-year storm events but they also represent 10-year flow events in the San Jacinto River, for which the Respondents' Alternative 3 was designed. A power point presentation, including diagrams from hydrodynamic modeling for the Site, was presented to EPA illustrating that the maximum water velocities at the Site during a 10-year flow event and during Hurricane Ike are very similar. A copy of Anchor's presentation is attached hereto as Exhibit 2 and is incorporated herein for all purposes. It was also noted during the meeting that EPA's Action Memo had specified that the TCRA design must be structurally secure to withstand any potential future extreme weather events and used Hurricane Ike as the example of such an event (i.e., a 10-year flow event).

Anchor also pointed out that in contrast to a 10-year flow event created by the various storm events referenced by EPA, TCEQ and Harris County, a 100-year flow event creates much greater water flow and thus greater velocities due to the gradient that is created during such an event. The maximum flow during the 100-year flow event in the vicinity of the Site is 372,000 cfs while the maximum flow during the 10-year flow event is 126,000 cfs. Due to this significant difference in flow, if EPA intended Respondents to design to the 100-year flow event, then EPA has essentially chosen a wholly-different design alternative that had not been proposed by Respondents in the TCRA Alternatives Analysis, thus rendering irrelevant much of the work

performed by Anchor over a several month period of time while in active communication with EPA.

At the August 11, 2010 meeting, Respondents presented to EPA a chart, included as the last page of the attached Exhibit 2, demonstrating the significant difference in the cap design, placement options/equipment, stockpile/laydown area, compatibility with other remedial options, cost, construction days, and remedial action work plan days created by changing from a 10-year flow design to a 100-year flow design.

10. On August 13, 2010, EPA sent an email to the Respondents and then further clarified via telephone that it intends Respondents to design the TCRA to withstand a 100-year flow event. As a result, Respondents have been required to re-design the TCRA, using a design interval for a permanent remedy as opposed to a temporary measure as required by the AOC and SOW. (See Exhibit 1: "Following USEPA guidance, a permanent remedy would be designed to resist a flow event with a return-period of 100 years.") Instead of designing a structure that will be structurally stable for 5-7 years as required by EPA's Action Memo and as discussed in the Decision Document, Respondents are being required to design a structure that will withstand a 100-year flow event. Designing a TCRA that will withstand a 100-year flow event is not consistent with ACOE guidance in that the probability of such an event occurring during the 5-7 year period for which the TCRA is intended is extremely low. As noted in EPA and ACOE guidance, "The selection of design intervals should be based on reasonable assumptions. The design life of most civil works projects such as bridges or dams is 50 years. The confidence in ability to predict the forces due to a 50 or 100 year event is high, because of the available data from historic records usually includes events with comparable return intervals. See "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments" (Palermo, et al. 1998). In the case of the TCRA, the design life is only intended to be 5-7 years, not 50-100 years. Anchor has been able to predict the forces that the TCRA will be required to withstand during extreme weather events due to the available data on such storms in the Houston area. The 10-year flow design used by Anchor to design Respondents' Alternative 3 will result in a highly protective removal action that is more than sufficient for the 5-7 year design life of the TCRA and is consistent with EPA and ACOE guidance. See Exhibit 1. This design will be supplemented by regular inspection and maintenance of the TCRA while the RI/FS is completed and the permanent remedy is selected.

11. As demonstrated by Exhibit 2, the design chosen by EPA in its August 13 Clarification (i.e., one based on a 100-year flow event) is fundamentally different than Alternative 3 as proposed by Respondents in the Technical Memorandum (i.e., a design based on a 10-year flow event). Conversely, both the AOC and the SOW require EPA to choose one of the alternatives proposed by Respondents in the TCRA Alternative Analysis.

12. Both the SOW and NCP require EPA to take into consideration the compatibility of the removal action with longer term remedial action alternatives when choosing a removal

action. In this case, by requiring Respondents to construct a permanent structure as the TCRA, rather than a temporary one, EPA is choosing to disregard this required consideration. For example, the permanent design of the TCRA will make future disturbance of the structure not only extremely expensive, but also extremely disruptive to the aquatic environment.

MIMC looks forward to future discussions of these issues with EPA. While this matter is under consideration by EPA, MIMC intends to timely submit the TCRA Work Plan required by the AOC. The submittal of the Work Plan is submitted contingent upon this matter. By submitting the Work Plan, MIMC does not waive any of its arguments made herein but makes the submission due to the onerous stipulated penalties to which it may be subjected for failure to submit on a timely basis. If you have any questions, please do not hesitate to call.

Sincerely,

Albert R. Axe, Jr.

cc: John Cermak
David Keith

/dlc

EXHIBIT 1

ANCHOR QEA

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MEMORANDUM

To:	Valmichael Leos, USEPA Mike Hasen, HVJ Associates Ed Barth, USEPA Steve Tzhone, USEPA	**Date:**	May 27, 2010
From:	John Verduin, P.E., Anchor QEA John Laplante, P.E., Anchor QEA Matt Henderson, P.E., Anchor QEA Wendell Mears, Anchor QEA	**Project:**	090557-01
Cc:	David Keith, Anchor QEA Phil Slowiak, International Paper Drew Shafer, March Smith, MIMC		
Re:	Design Storm Event: San Jacinto Superfund Site Time Critical Removal Action		

The purpose of this Design Storm Event Memorandum is to define the storm event to be used to design the Time Critical Removal Action (TCRA) for the San Jacinto Superfund Site (Site). The TCRA will be implemented within the next year. Concurrent to the TCRA, International Paper and MIMC (Respondents) are completing a Non-Time Critical Removal Action (NTCRA) Engineering Evaluation/Cost Assessment (EE/CA) to select the appropriate long-term removal action for the Site. The NTCRA is anticipated to be completed within the next two to seven years.

The United States Environmental Protection Agency (USEPA) April 2, 2010, memorandum titled, "Request for a Time Critical Removal Action at the San Jacinto Waste Pits Site, Harris County, Texas" states that the technologies used to control erosion "must be structurally sufficient to withstand forces sustained by the river including any future erosion and be structurally sound for a number of years until a final remedy is designed and implemented. Also, the Houston area is visited by seasonal severe weather events (i.e. strong force winds or flooding) and the physical protective barrier must be structurally secure to withstand any potential future extreme weather events" (USEPA 2010; IV.A.1; Page 9; 3rd paragraph).

This memorandum presents the recommended design storm for the TCRA based on a review of guidance documents related to storm events and an analysis of various return-interval storm events in the San Jacinto River.

GUIDANCE FOR RESISTANCE TO DESIGN LEVEL STORM EVENTS

The USEPA and U.S. Army Corps of Engineers (USACE) have developed storm event performance criteria for contaminated sediments sites. For example, USEPA's and USACE's "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments" (Palermo et al. 1998) and USEPA's "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites" (2005) provide guidance for design of technologies to resist design storm events. "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites" also states that erosion protection features should be "based on the magnitude and probability of occurrence of relatively extreme erosive forces estimated at the capping site. Generally, in-situ caps should be designed to withstand forces with a probability of 0.01 per year, for example, the 100-year storm."

Following USEPA guidance, a permanent remedy would be designed to resist a flow event with a return-period of 100 years. However, the risk of a 100-year storm occurring in the 2- to 7-year time period is only 2 to 6.8 percent. Given the low probability of this occurring, sizing materials to resist this event would be impractical for the short timeframe that the TCRA is expected to be in place. In addition, if a rare, extreme event did occur in the short timeframe, the disruption to the cover system could be easily observed and repaired as necessary. Therefore, an evaluation was performed to determine an equivalent storm event for a shorter design life span shorter than the typical 100-year design.

ANALYSIS OF STORM DATA RETURN PERIODS

As previously discussed, the anticipated design and construction period for the NTCRA is two to seven years, which is the anticipated range of wait time between the completion of TCRA construction and the implementation of the final NTCRA. This period could be shorter or longer depending on uncontrollable events. The purpose of this analysis is to determine the likelihood that the TCRA remedy would experience a flow event greater than the intended design life.

Table 1 presents the probability of occurrence of 2-, 5-, 10-, and 25-year storm events to occur within the two and seven year period). As an example from Table 1, a 5-year flow event has an annual probability of occurring in any given year of 20 percent. The 5-year event would have a 36 percent chance of occurring during a 2-year wait period and a 79 percent chance during a 7-year wait period.

Table 1
Percent Chance of Occurrence

Return Period (years)	Annual Percent Chance of Occurrence (percent)	Period of Concern (years)	
		2	7
2	50	75	99
5	20	36	79
10	10	19	52
25	4	8	25

As previously discussed, USEPA guidance recommends designing permanent engineered caps for a 100-year flow event. Over a 100-year design life, the percent chance of a 100-year flow event occurring is approximately 63 percent.

As described in the USEPA guidance, the design life for most civil works projects such as bridges or dams is approximately 50 years (Palermo et al. 1998). The probability of a 100-year event occurring in 50-year design life is approximately 40 percent. In addition, in the USACE's "Hydraulic Design for Local Flood Protection Projects", the USACE recommends that "...all channel elements will perform satisfactorily for flows up to and including the annual flood frequency which has a 50 percent probability of being exceeded during the project economic life." A 2-year event has a 50 percent probability of occurrence on an annual basis. For a 7-year design life, the flood event that has a 50 percent probability of occurring is the 10-year event.

For a temporary two- to seven- year TCRA, a flow event with an equivalent chance of occurring during a two to seven year period of approximately 63 percent would correspond to a 2- to 10-year storm event. Therefore, the TCRA will be designed to resist 10-year return-interval flow events in the San Jacinto River consistent with the USEPA and USACE guidance.

REFERENCES

Maynord, S., 1998. Appendix A: Armor Layer Design for the Guidance for In-Situ Subaqueous Capping of Contaminated Sediment. EPA 905-B96-004, Great Lakes National Program Office, Chicago, IL.

Palermo, M., S. Maynord, J. Miller, and D. Reible. 1998. "Guidance for In-Situ Subaqueous Capping of Contaminated Sediments." EPA 905-B96-004, Great Lakes National Program Office, Chicago, IL.

U.S. Army Corps of Engineers (USACE). 1982. "Hydraulic Design for Local Flood Control Projects." ER 1110-2-1405, Washington, D.C.

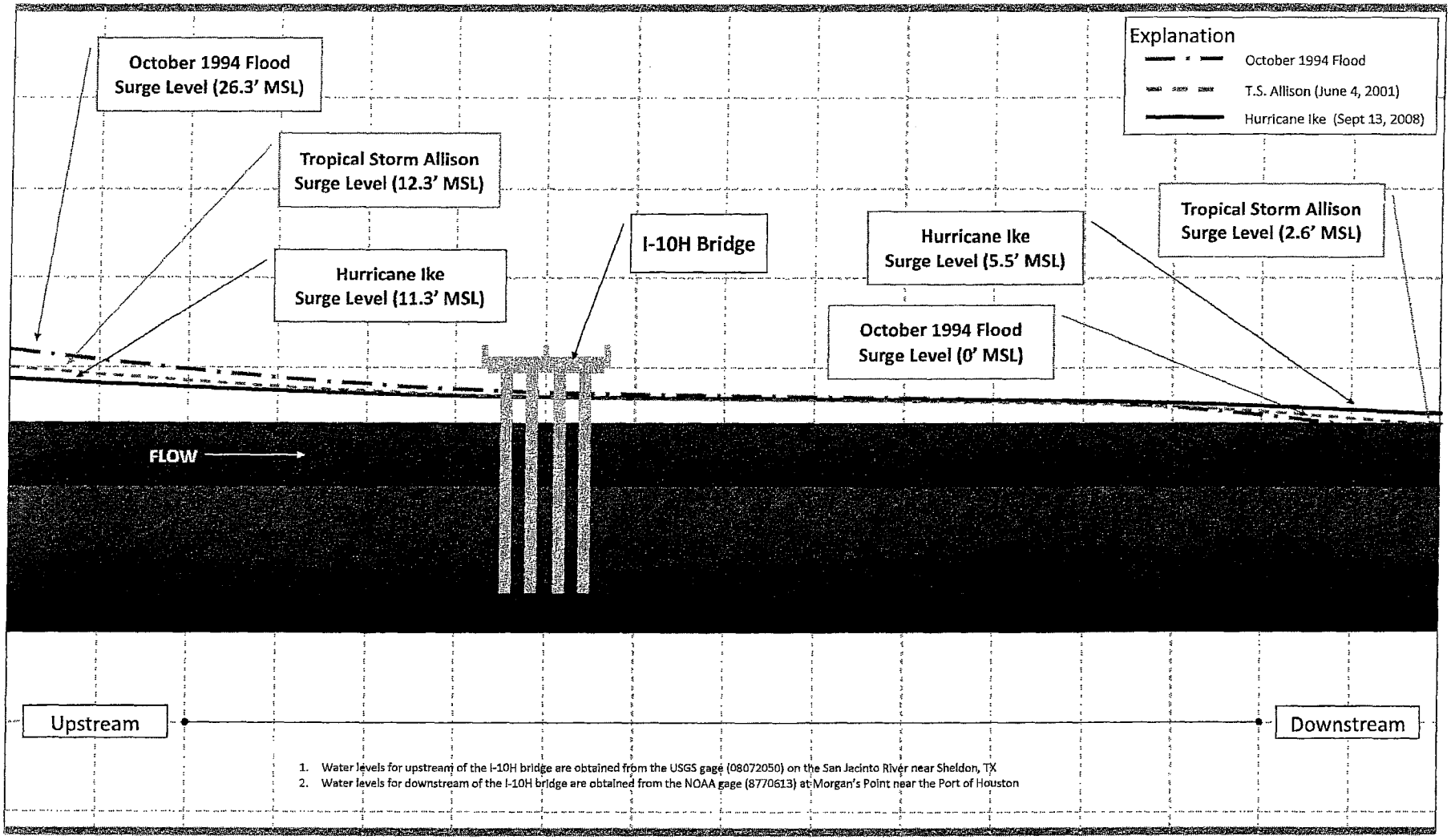
U.S. Environmental Protection Agency (USEPA). 2005. "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites." EPA-540-R-05-012, Office of Solid Waste and Emergency Response

USEPA. 2010. Memorandum titled, "Request for a Time Critical Removal Action at the San Jacinto Waste Pits Site, Harris County, Texas." From V. Leos to S. Coleman, P.E. April 2, 2010.

EXHIBIT 2

ANCHOR QEA

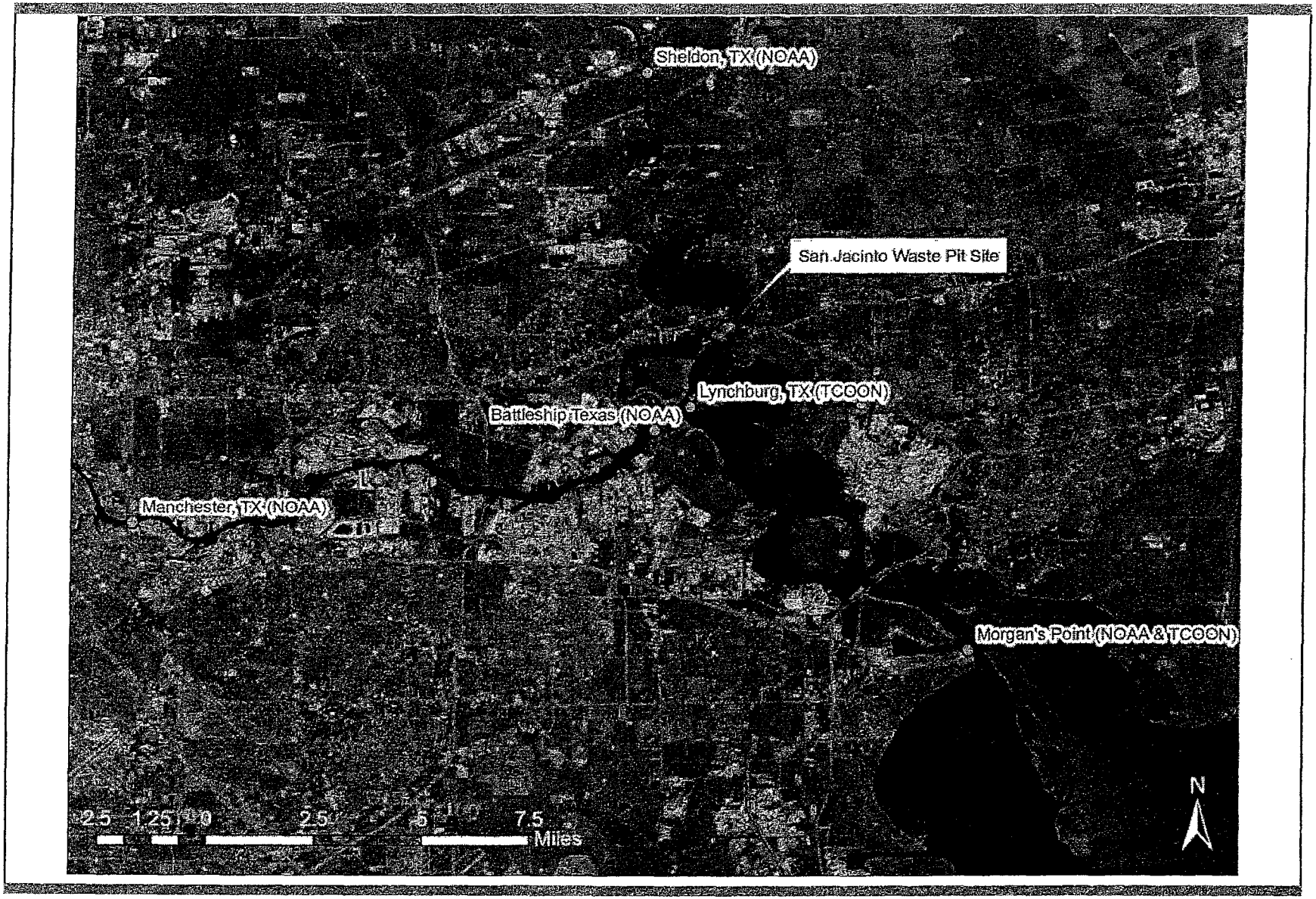
Figure #
Figure Title
Report Name
Project/Client Name



ANCHOR QEA

NOT TO SCALE

Figure 1
Figure Title
Report Name
Project Title/Name



ANCHOR QEA

Figure #
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Report Name
Project/Client Name

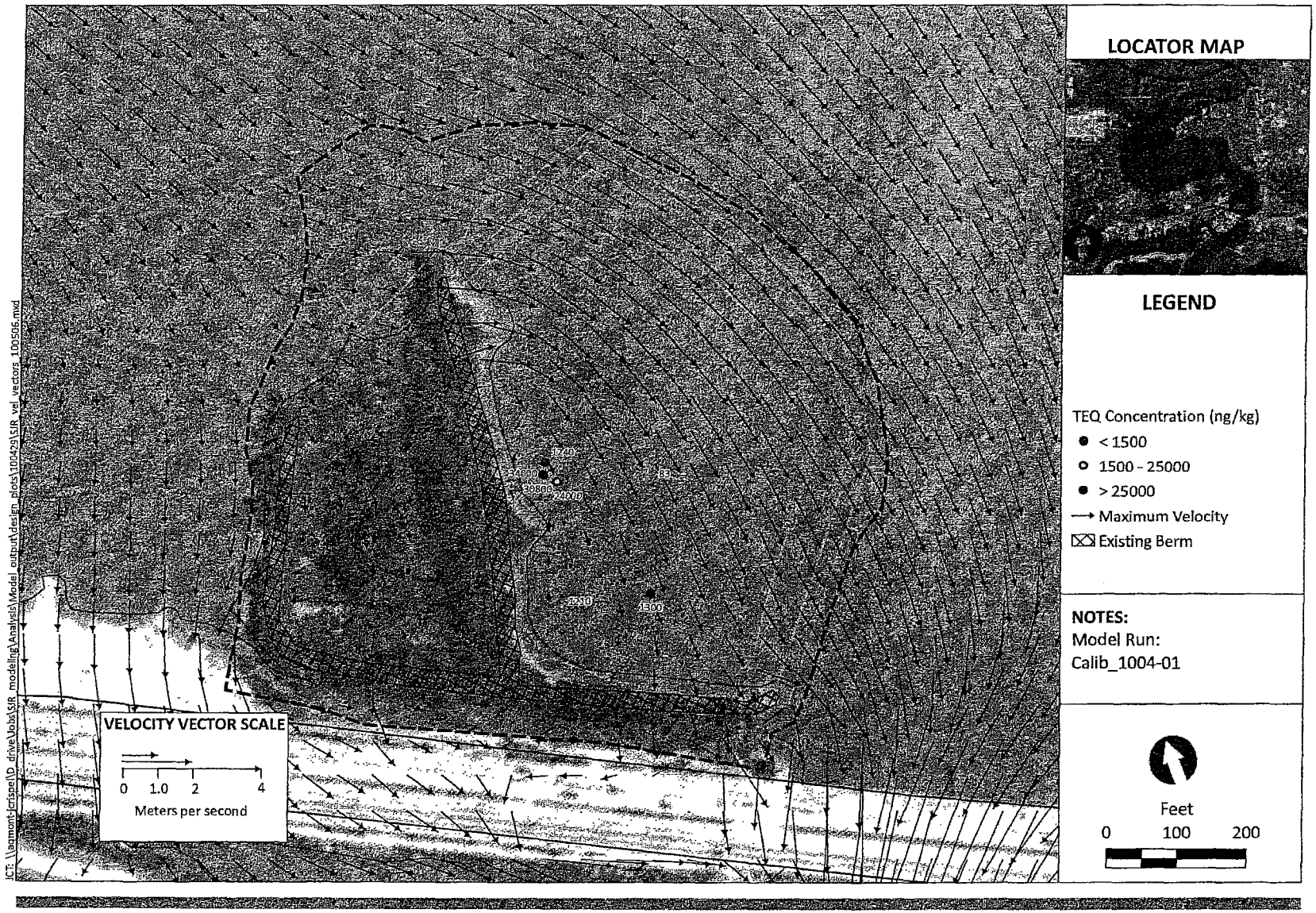

Figure --

Maximum Velocity- Existing Conditions
10-year Flow (126,000 cfs), Lower-Bound Stage Height
San Jacinto River Study Area

ANCHOR QEA

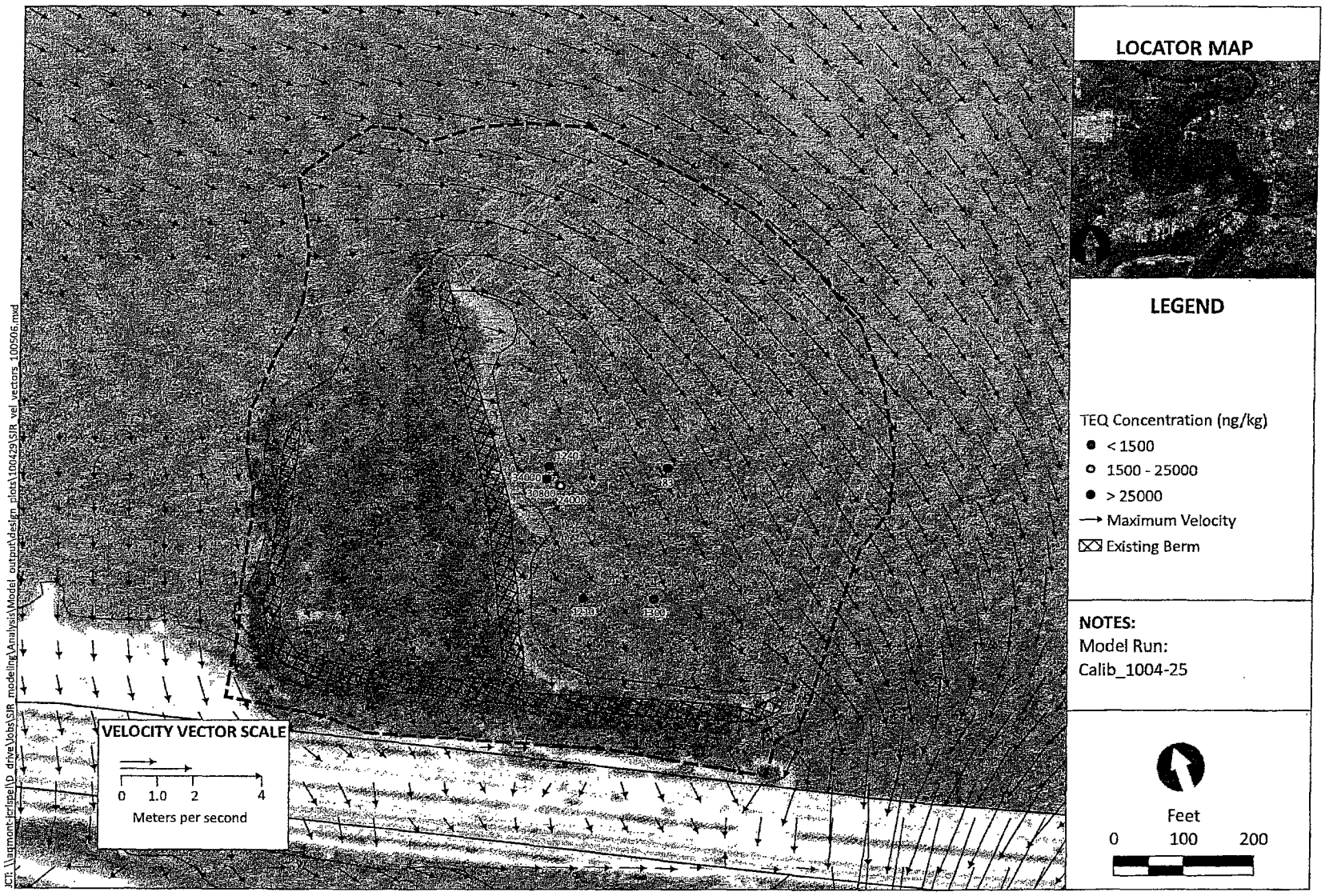

Figure --

Maximum Velocity- Existing Conditions
Hurricane Ike Flow and Stage (September 8 - 20, 2008)
San Jacinto River Study Area

ANCHOR QEA

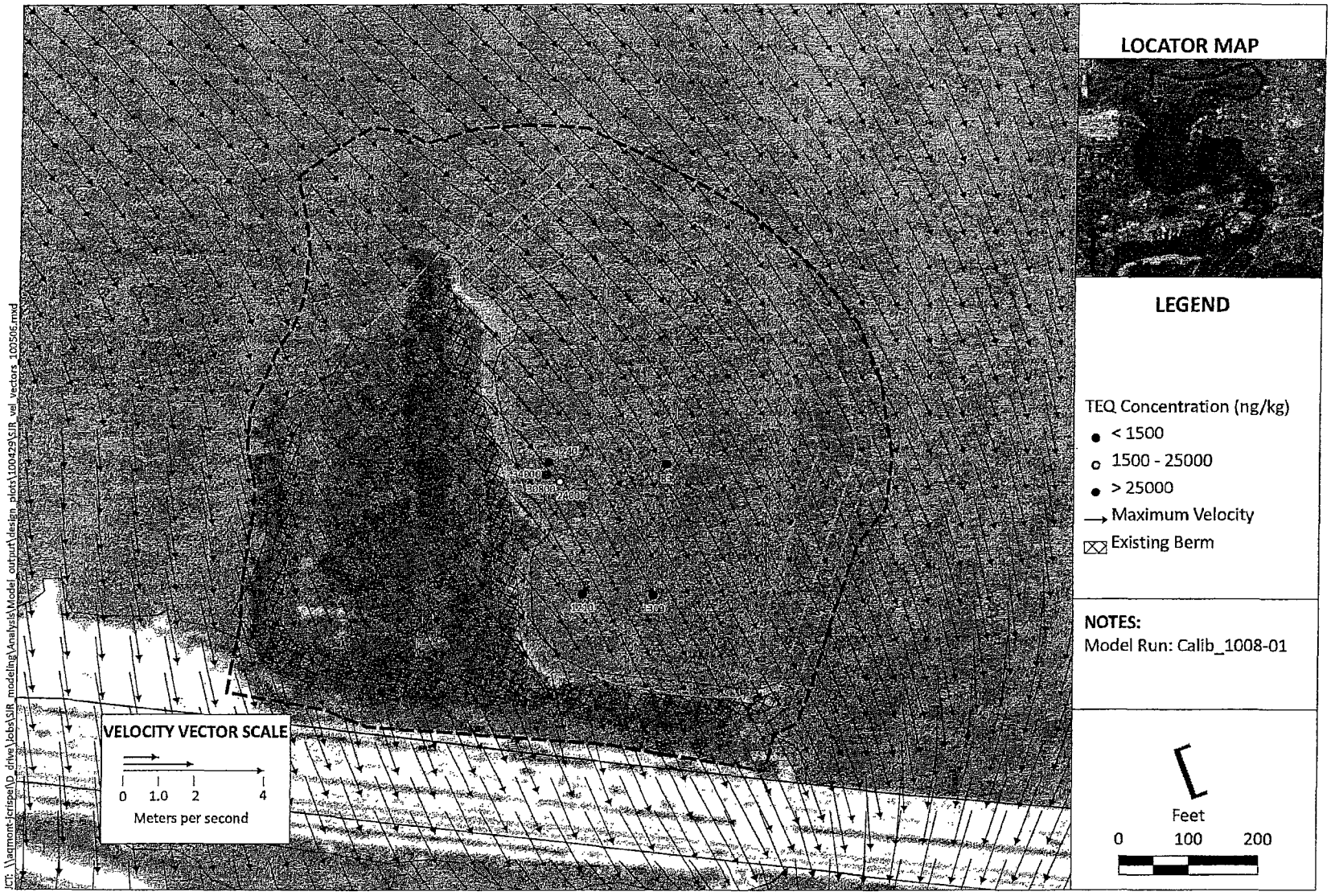

Figure 1

Maximum Velocity - Existing Conditions
100-year Flow (372,000 cfs), Lower-Bound Stage Height
San Jacinto River Study Area

ANCHOR QEA

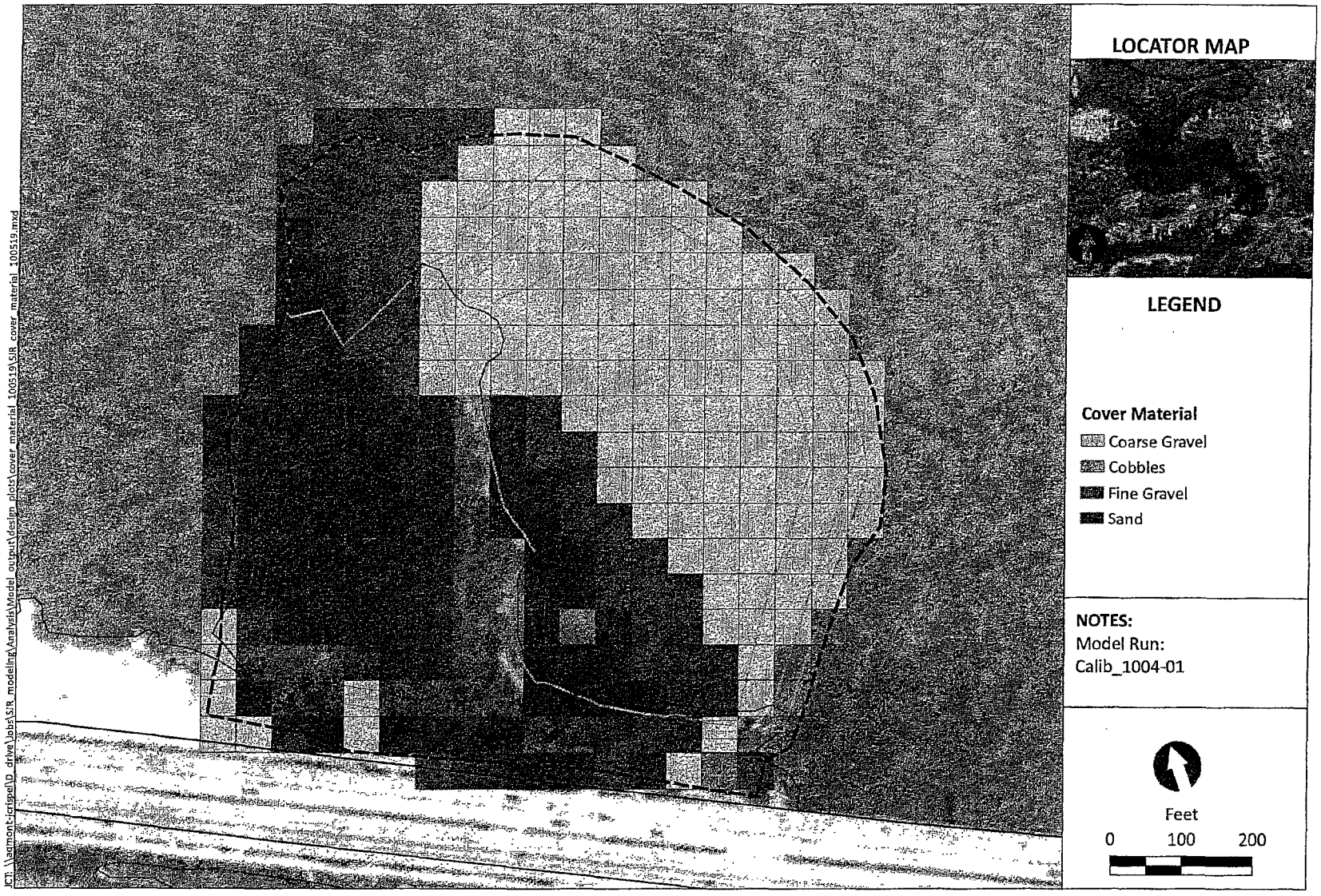

Figure #

Proposed Cover Material - Existing Conditions
10-year Flow (126,000 cfs), Lower-Bound Stage Height
San Jacinto River Study Area

ANCHOR QEA

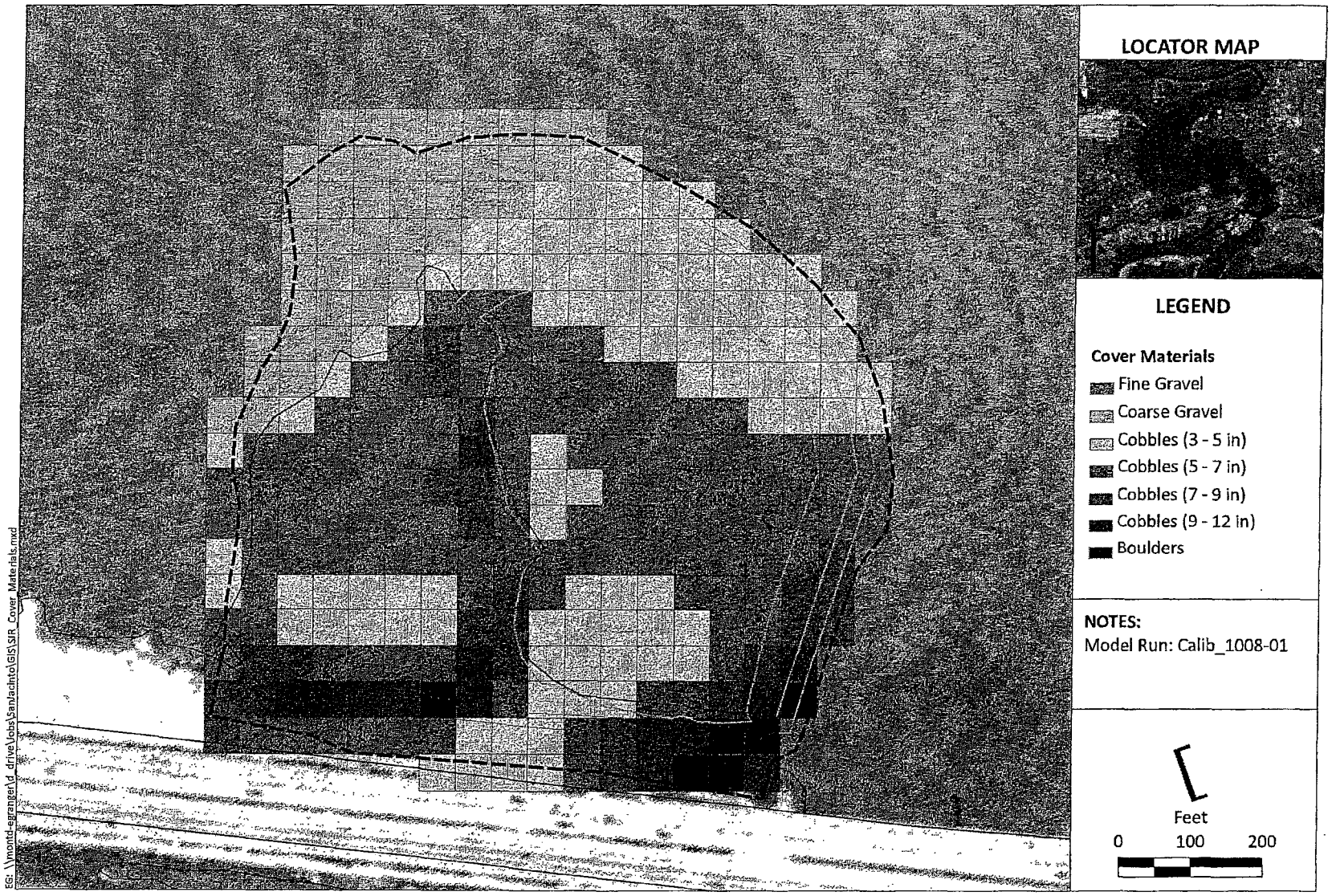

Figure 6

Proposed Cover Material - SF = 1.5 and Density = 145 pcf
100-year Flow (372,000 cfs), Lower-Bound Stage Height
San Jacinto River Study Area

ANCHOR QEA

Changed Item	10-year Flow Design	100-year Flow Design
Cap Gradation D^{50} Inches	2-inch	4 to 8-inch
Cap Thickness Inches	6-inch (min)	8 to 16-inch (min)
Cap Surface – Square Feet	314,000 (7.2 acres)	452,000 (10.4)
Cap Volume – Cubic Yards (Tons)	13,100 (21,000 Tons)	25,500 (41,600 Tons)
Placement Options/Equipment	Hydraulic (pump) and Mechanical	Mechanical
Stockpile/Lay Down Area		Increased 50%
Compatibility with Other Remedial Options	• Removal, CDF or insitu containment are all viable remedies	• Strongly favors insitu containment over removal or CDF • Move Aggregate to Build CDF? • Difficulty for Total Removal.
Cost	$3.7 to 4.2 mil	$6.7 to 7.7 mil
Construction Days	60 to 80	150 to 170
Remedial Action Work Plan (days)	30	60